

10/089783

JC10 Rec'd PCT/PTO 01 APR 2002

SEQUENCE LISTING

5 <110> SmithKlin Beecham Biologicals
 <120> Novel compounds
 <130> BC45263
 10 <160> 72
 <170> FastSEQ for Windows Version 3.0
 15 <210> 1
 <211> 2407
 <212> DNA
 <213> Artificial Sequence
 20 <400> 1
 tggggaggca gaaggcagac tgatcacttg aggccaggag tttagacct catgtctaaa 60
 aaaaaaaat tctgtgaggt gagttttatt gttattccct ctctacagat atggaaactg 120
 aggctgagaa tcagaaccat tcacaagaca aaaatccccc agttggcaga tccagggttg 180
 caagccaggc ctgtgcagcc ccaaaaccag tgcttgttta accactgtgt ggtgaccaca 240
 25 ccgctccagg ccaacagctt ggggctaagt cttcacgttg cctttcacca ttaaataata 300
 gggctgccct ttgttgaagc cctgcactcc cagtgcaggc cataataacc ttcagggtgt 360
 ctgctttctg ccttctctag catggccaag tatttccgga acaacttcat taatccccac 420
 atttactccg gagggatcac caagctgac ttttgctggg acttactgt cactcatgaa 480
 aaagctgtga agctaaaaca gaagaatctt agcactgaga taaggagaaa cctgtcagag 540
 30 ctccgtcagg agaattccaa gttgacgttc aatcagctgc tgaccgcct ctctgcctac 600
 atggtagcct gggttgtctc tacaggagtg gccatagcct gctgtgcagc cgtttattac 660
 ctggtcagtg acaacttaga gttcctgaag acacacagta accctggggc ggtgctgtta 720
 ctgcctttcg ttgtgtcctg cattaatctg gccgtgccat gcactactc catgttcagg 780
 ctgttggaag ggtacgagat gccacggcac gaagtctacg ttctcctgat ccgaaacatc 840
 35 tttttgaaaa tatcaatcat tggcattctt tgttactatt ggctcaacac cgtggccctg 900
 tctggtgaag agtgttgga aaccctcatt ggccaggaca tctaccggct ccttctgatg 960
 gattttgtgt tctctttagt caattccttc ctgggggagt ttctgaggag aatcattggg 1020
 atgcaactga tcacaagtct tggccttcag gagtttgaca ttgccaggaa cgttctagaa 1080
 ctgatctatg cacaaactct ggtgtggatt ggcatctct tctgccccct gctgcccttt 1140
 40 atccaaatga ttatgctttt catcatgttc tactccaaa atatcagcct gatgatgaat 1200
 ttccagcctc cgagcaaagc ctggcggggc tcacagatga tgactttctt catcttcttg 1260
 ctctttttcc catccttcac cggggtcttg tgcaccctgg ccatcaccat ctggagattg 1320
 aagccttcag ctgactgttg cccttttcga ggtctgcctc tcttcattca ctccatctac 1380
 agctggatcg acaccctaag tacacggcct ggctacctgt gggttgtttg gatctatcgg 1440
 45 aacctcattg gaagtgtgca cttctttttc atcctcacc tcattgtgct aatcatcacc 1500
 tatctttact ggcagatcac agagggaagg aagattatga taaggctgct ccatgagcag 1560
 atcattaatg agggcaaaga taaaatgttc ctgatagaaa aattgatcaa gctgcaggat 1620
 atggagaaga aagcaaaccc cagctcactt gttctggaaa ggagagaggt ggagcaaca 1680
 ggctttttgc atttggggga acatgatggc agtcttgact tgcgatctag aagatcagtt 1740
 50 caagaaggta atccaagggc ctgatgactc ttttggtaac cagacaccaa tcaaataagg 1800
 ggaggagacg aaaatggaat gatttcttcc atgccacctg tgcccttagg aactgcccag 1860
 aagaaaatcc aaggctttag ccaggagcgg aaactgacta ccatgtaatt atcaaagtaa 1920
 aattgggcat tccatgctat ttttaatacc tggattgctg atttttcaag acaaaatact 1980
 tgggggtttc caataaagat tgttgaata ttgaaatgag cctacaaaaa cctaggaaga 2040
 55 gataactagg gaataatgta tattatcttc aagaaatgtg tgcaaggaatg attggttctt 2100
 agaaatctct cctgccagac tcccagacc tggcaaaagt ttagaaactg ttgctaagaa 2160
 aagtgggtcca tcctgaataa acatgtaata ctccagcagg gatatgaagc ctctgaattg 2220
 tagaacctgc atttatttgt gactttgaac taaagacatc ccccatgtcc caaagggtga 2280
 atacaaccag aggtctcatc tctgaacttt cttgcgtact gattacatga gtctttggag 2340
 60 tcgggggatg agggaggttct gccctgtga ggtgttatac atgaccatca aagtcctacg 2400
 tcaagct 2407
 <210> 2
 <211> 460
 <212> PRT
 65 <213> Artificial Sequence

<400> 2

	Met	Ala	Lys	Tyr	Phe	Arg	Asn	Asn	Ph	Ile	Asn	Pro	His	Il	Tyr	Ser
	1				5					10					15	
5	Gly	Gly	Ile	Thr	Lys	Leu	Ile	Phe	Cys	Trp	Asp	Phe	Thr	Val	Thr	His
				20					25					30		
	Glu	Lys	Ala	Val	Lys	Leu	Lys	Gln	Lys	Asn	Leu	Ser	Thr	Glu	Ile	Arg
				35					40					45		
10	Glu	Asn	Leu	Ser	Glu	Leu	Arg	Gln	Glu	Asn	Ser	Lys	Leu	Thr	Phe	Asn
		50					55					60				
	Gln	Leu	Leu	Thr	Arg	Phe	Ser	Ala	Tyr	Met	Val	Ala	Trp	Val	Val	Ser
	65					70					75				80	
	Thr	Gly	Val	Ala	Ile	Ala	Cys	Cys	Ala	Ala	Val	Tyr	Tyr	Leu	Ala	Glu
					85					90					95	
15	Tyr	Asn	Leu	Glu	Phe	Leu	Lys	Thr	His	Ser	Asn	Pro	Gly	Ala	Val	Leu
				100					105					110		
	Leu	Leu	Pro	Phe	Val	Val	Ser	Cys	Ile	Asn	Leu	Ala	Val	Pro	Cys	Ile
			115						120					125		
	Tyr	Ser	Met	Phe	Arg	Leu	Val	Glu	Arg	Tyr	Glu	Met	Pro	Arg	His	Glu
20			130					135				140				
	Val	Tyr	Val	Leu	Leu	Ile	Arg	Asn	Ile	Phe	Leu	Lys	Ile	Ser	Ile	Ile
	145					150					155				160	
	Gly	Ile	Leu	Cys	Tyr	Trp	Leu	Asn	Thr	Val	Ala	Leu	Ser	Gly	Glu	
				165					170					175		
25	Glu	Cys	Trp	Glu	Thr	Leu	Ile	Gly	Gln	Asp	Ile	Tyr	Arg	Leu	Leu	Leu
				180					185					190		
	Met	Asp	Phe	Val	Phe	Ser	Leu	Val	Asn	Ser	Phe	Leu	Gly	Glu	Phe	Leu
			195						200				205			
	Arg	Arg	Ile	Ile	Gly	Met	Gln	Leu	Ile	Thr	Ser	Leu	Gly	Leu	Gln	Glu
30			210					215					220			
	Phe	Asp	Ile	Ala	Arg	Asn	Val	Leu	Glu	Leu	Ile	Tyr	Ala	Gln	Thr	Leu
	225					230					235				240	
	Val	Trp	Ile	Gly	Ile	Phe	Phe	Cys	Pro	Leu	Leu	Pro	Phe	Ile	Gln	Met
				245						250					255	
35	Ile	Met	Leu	Phe	Ile	Met	Phe	Tyr	Ser	Lys	Asn	Ile	Ser	Leu	Met	Met
				260					265					270		
	Asn	Phe	Gln	Pro	Pro	Ser	Lys	Ala	Trp	Arg	Ala	Ser	Gln	Met	Met	Thr
			275						280					285		
	Phe	Phe	Ile	Phe	Leu	Leu	Phe	Phe	Pro	Ser	Phe	Thr	Gly	Val	Leu	Cys
40			290					295					300			
	Thr	Leu	Ala	Ile	Thr	Ile	Trp	Arg	Leu	Lys	Pro	Ser	Ala	Asp	Cys	Gly
	305					310					315				320	
	Pro	Phe	Arg	Gly	Leu	Pro	Leu	Phe	Ile	His	Ser	Ile	Tyr	Ser	Trp	Ile
				325						330					335	
45	Asp	Thr	Leu	Ser	Thr	Arg	Pro	Gly	Tyr	Leu	Trp	Val	Val	Trp	Ile	Tyr
				340					345					350		
	Arg	Asn	Leu	Ile	Gly	Ser	Val	His	Phe	Phe	Phe	Ile	Leu	Thr	Leu	Ile
			355						360				365			
	Val	Leu	Ile	Ile	Thr	Tyr	Leu	Tyr	Trp	Gln	Ile	Thr	Glu	Gly	Arg	Lys
50			370					375					380			
	Ile	Met	Ile	Arg	Leu	Leu	His	Glu	Gln	Ile	Ile	Asn	Glu	Gly	Lys	Asp
	385					390					395				400	
	Lys	Met	Phe	Leu	Ile	Glu	Lys	Leu	Ile	Lys	Leu	Gln	Asp	Met	Glu	Lys
				405						410					415	
55	Lys	Ala	Asn	Pro	Ser	Ser	Leu	Val	Leu	Glu	Arg	Arg	Glu	Val	Glu	Gln
				420					425					430		
	Gln	Gly	Phe	Leu	His	Leu	Gly	Glu	His	Asp	Gly	Ser	Leu	Asp	Leu	Arg
			435					440					445			
	Ser	Arg	Arg	Ser	Val	Gln	Glu	Gly	Asn	Pro	Arg	Ala				
60		450					455					460				

<210> 3

<211> 2521

<212> DNA

65 <213> Artificial Sequence

WO 01/23417

PCT/EP00/09500

	<400> 3																
	tggggaggca	gaaggcagac	tgatcacttg	aggccaggag	tttgagacct	catgtctaaa											60
	aaaaaaaaat	tctgtgaggt	gagttttatt	gttattccct	ctctacagat	atggaaactg											120
	aggctgagaa	tcagaacccat	tcacaagaca	aaaatccccc	agttggcaga	tccagggttg											180
5	caagccaggc	ctgtgcagcc	ccaaaaccag	tgcttgttta	accactgtgt	ggtgaccaca											240
	ccgctccagg	ccaacagctt	ggggctaagt	cttcacgttg	cctttcacca	ttaaataata											300
	gggtcgccct	ttgttgaagc	cctgcactcc	cagtgcaggc	cataataacc	ttcagggtgt											360
	ctgctttctg	ccttctctag	catggccaag	tatttccgga	acaacttcat	taatccccac											420
	atttactccg	gagggatcac	caagctgatc	ttttgctggg	acttcactgt	cactcatgaa											480
10	aaagctgtga	agctaaaaca	gaagaatctt	agcactgaga	taaggggagaa	cctgtcagag											540
	ctccgtcagg	agaattccaa	gttgacgttc	aatcagctgc	tgacccgctt	ctctgcctac											600
	atggtagcct	gggttgtctc	tacaggagtg	gccatagcct	gctgtgcagc	cgtttattac											660
	ctggctgagt	acaacttaga	gttcctgaag	acacacagta	accctggggc	ggtgctgtta											720
	ctgcctttcg	ttgtgtcctg	cattctggcc	gtgccatgca	tctactccat	gttcaggctt											780
15	gtggagaggt	acgagatgcc	acggcacgaa	gtctacgttc	tcctgatccg	caggggattg											840
	atgtagttct	caagtatggg	atgtacagat	gggcaggcag	tgacgcacaa	aaggctcctg											900
	ggctgaggac	gggactgaaa	tcatccagcg	ttccccttag	tcaagctaaa	catctttttg											960
	aaaatatcaa	tcattggcat	tctttgttac	tattggctca	acaccgtggc	cctgtctggg											1020
	gaagagtgtt	gggaaaccct	catttggccag	gacatctacc	ggctccttct	gatggatttt											1080
20	gtgttctctt	tagtcaattc	cttctctggg	gagtttctga	ggagaatcat	tgggatgcaa											1140
	ctgatcacaa	gtcttggcct	tcaggagttt	gacattgcca	ggaacgttct	agaactgatc											1200
	tatgcacaaa	ctctggtgtg	gattggcatc	ttcttctgcc	ccctgctgcc	ctttatccaa											1260
	atgattatgc	ttttcatcat	gttctactcc	aaaaatatca	gcctgatgat	gaatttccag											1320
	cctccgagca	aagcctggcg	ggcctcacag	atgatgactt	tcttcatctt	cttgcctctt											1380
25	ttcccatcct	tcaccggggg	cttgtgcacc	ctggccatca	ccatctggag	attgaagcct											1440
	tcagctgact	gtggcccttt	tcgaggtctg	cctctcttca	ttcactccat	ctacagctgg											1500
	atcgacaccc	taagtacacg	gcctggctac	ctgtgggttg	tttggatcta	tcggaacctc											1560
	attggaagtg	tgactttctt	tttcatcctc	accctcattg	tgctaatacat	cacctatctt											1620
	tactggcaga	tcacagaggg	aaggaagatt	atgataaggc	tgctccatga	gcagatcatt											1680
30	aatgagggca	aagataaaaat	gttcctgata	gaaaaattga	tcaagctgca	ggatatggag											1740
	aagaaagcaa	acccagctc	acttgttctg	gaaaggagag	aggtggagca	acaaggcttt											1800
	ttgcatttgg	gggaacatga	tggcagtctt	gacttgcgat	ctagaagatc	agttcaagaa											1860
	ggtaatccaa	gggcctgatg	actcttttgg	taaccagaca	ccaatcaaat	aaggggagga											1920
	gacgaaaaatg	gaatgatttc	ttccatgcca	cctgtgcctt	taggaactgc	ccagaagaaa											1980
35	atccaaggct	ttagccagga	gcggaaactg	actaccatgt	aattatcaaa	gtaaaattgg											2040
	gcattccatg	ctatttttaa	tacctggatt	ctgtattttt	caagacaaaa	tacttggggg											2100
	tttccaataa	agattgttgt	aatattgaaa	tgaagcctaca	aaaacctagg	aagagataac											2160
	tagggaataa	tgtatattat	cttcaagaaa	tgtgtgcagg	aatgattggg	tcttagaaat											2220
	ctctcctgcc	agacttccca	gacctggcaa	aggtttagaa	actgttgcta	agaaaagtgg											2280
40	tccatcctga	ataaacatgt	aatactccag	cagggatatg	aagcctctga	attgtagaac											2340
	ctgcatttat	ttgtgacttt	gaactaaaga	catcccccat	gtcccaaagg	tggaaatacaa											2400
	ccagaggtct	catctctgaa	ctttcttgcg	tactgattac	atgagtcttt	ggagtcgggg											2460
	atggaggagg	ttctgcccct	gtgaggtgtt	atacatgacc	atcaaagtcc	tacgtcaagc											2520
	t																2521
45	<210> 4																
	<211> 154																
	<212> PRT																
	<213> Artificial Sequence																
50	<400> 4																
	Met	Ala	Lys	Tyr	Phe	Arg	Asn	Asn	Phe	Ile	Asn	Pro	His	Ile	Tyr	Ser	
	1				5				10						15		
55	Gly	Gly	Ile	Thr	Lys	Leu	Ile	Phe	Cys	Trp	Asp	Phe	Thr	Val	Thr	His	
				20					25					30			
	Glu	Lys	Ala	Val	Lys	Leu	Lys	Gln	Lys	Asn	Leu	Ser	Thr	Glu	Ile	Arg	
			35					40					45				
	Glu	Asn	Leu	Ser	Glu	Leu	Arg	Gln	Glu	Asn	Ser	Lys	Leu	Thr	Phe	Asn	
		50					55					60					
60	Gln	Leu	Leu	Thr	Arg	Phe	Ser	Ala	Tyr	Met	Val	Ala	Trp	Val	Val	Ser	
	65				70					75					80		
	Thr	Gly	Val	Ala	Ile	Ala	Cys	Cys	Ala	Ala	Val	Tyr	Tyr	Leu	Ala	Glu	
				85					90					95			
	Tyr	Asn	Leu	Glu	Phe	Leu	Lys	Thr	His	Ser	Asn	Pro	Gly	Ala	Val	Leu	
65			100					105					110				
	Leu	Leu	Pro	Phe	Val	Val	Ser	Cys	Ile	Leu	Ala	Val	Pro	Cys	Ile	Tyr	

WO 01/23417

PCT/EP00/09500

115 120 125
 Ser Met Ph Arg Leu Val Glu Arg Tyr Glu Met Pro Arg His Glu Val
 130 135 140
 Tyr Val Leu Leu Ile Arg Arg Gly Leu Met
 5 145 150

 <210> 5
 <211> 1960
 <212> DNA
 10 <213> Artificial Sequence

 <400> 5
 atcttttgct gggacttcac tgtcactcat gaaaaagctg tgaagctaaa acagaagaat 60
 cttagcactg agataaggga gaacctgtca gagctccgtc aggagaattc caagttgacg 120
 15 ttcaatcagc tgetgaccog cttctctgcc tacatggtag cctgggttgt ctctacagga 180
 gtggccatag cctgetgtgc agcgttttat tacctggctg agtacaactt agagtccctg 240
 aagacacaca gtaacctggt ggcggtgtg tttactgcctt tcgttgtgtc ctgcattaat 300
 ctggccgtgc catgcatcta ctccatgttc aggcctgtgtg agaggtaCga gatgccacgg 360
 catgaagtct acgttctcct gatccgaaac atctttttga aaatatcaat cattggcatt 420
 20 ctttgttact attggctcaa caccgtggcc ctgtctggtg aagagtgttg ggaaccctc 480
 attggccagg acatctaccg gctccttctg atggattttg tgttctcttt agtcaattcc 540
 ttcctggggg agtttctgag gagaatcatt gggatgcaac tgatcacaag tcttggcctt 600
 caggagtttg acattgccag gaacgtttcta gaactgatct atgcacaaac tctggtgtgg 660
 attggcatct tcttctgccc cctgtgcccc tttatccaaa tgattatgct tttcatcatg 720
 25 tttactacca aaaatatcag cctgatgatg aatttccagc ctccgagcaa agcctggcgg 780
 gcctcacaga tgatgacttt ctcatcttct ttgctctttt tcccatcttt caccgggggtc 840
 ttgtgcaccc tggccatcac catctggaga ttgaagcctt cagctgactg tggccctttt 900
 cgaggctctg ctctcttcat tcactccatc tacagctgga tcgacaccct aagtacacgg 960
 cctggctacc tgtgggttgt ttggtcttat cggaaacctca ttggaagtgt gcacttcttt 1020
 30 ttcatcctca ccctcattgt gctgatcatc acctatcttt actggcagat cacagaggga 1080
 aggaagatta tgataaggct gctccatgag cagatcatta atgagggcaa agataaaatg 1140
 ttctgtatag aaaaattgat caagctgcag gatattggaga agaaagcaaa cccagctca 1200
 cttgttctgg aaaggagaga ggtggagcaa caaggctttt tgcatttggg ggaacatgat 1260
 ggcagtcttg acttgcgatc tagaagatca gttcaagaag gtaatccaag ggctgatga 1320
 35 ctcttttggg aaccagacac caatcaaata aggggaggag atgaaaatgg aatgatttct 1380
 tccatgccac ctgtgccttt aggaactgcc cagaagaaaa tccaaggctt tagccaggag 1440
 cggaactga ctaccatgta attatcaaag taaaattggg cattccatgc tatttttaat 1500
 acctggattg ctgatttttc aagacaaaat acttgggggtt ttccaataaa gattgttgta 1560
 atattgaaat gagcctacaa aaacctagga agagataact agggaaataat gtatattatc 1620
 40 ttcaagaaat gtgtgcagga atgattgggt cttagaaatc tctcctgcca gacttcccag 1680
 acctggcaaa ggtttagaaa ctgttgctaa gaaaagtggg ccacctgaa taaacatgta 1740
 atactccagc agggatatga agcctctgaa ttgtagaacc tgcatttatt tgtgactttg 1800
 aactaaagac atcccccatg tcccaaaggt ggaatacaac cagagggtctc atctctgaac 1860
 tttcttgctg actgattaca tgagtctttg gagtccggga tggaggagggt tctgccctg 1920
 45 tgaggtgtta tacatgacca tcaaagtctt acgtcaagct 1960

<210> 6
 <211> 438
 <212> PRT
 50 <213> artifical sequence

<400> 6
 Ile Phe Cys Trp Asp Phe Thr Val Thr His Glu Lys Ala Val Lys Leu
 1 5 10 15
 55 Lys Gln Lys Asn Leu Ser Thr Glu Ile Arg Glu Asn Leu Ser Glu Leu
 20 25 30
 Arg Gln Glu Asn Ser Lys Leu Thr Phe Asn Gln Leu Leu Thr Arg Phe
 35 40 45
 Ser Ala Tyr Met Val Ala Trp Val Val Ser Thr Gly Val Ala Ile Ala
 50 55 60
 60 Cys Cys Ala Ala Val Tyr Tyr Leu Ala Glu Tyr Asn Leu Glu Phe Leu
 65 70 75 80
 Lys Thr His Ser Asn Pro Gly Ala Val Leu Leu Leu Pro Phe Val Val
 85 90 95
 65 Ser Cys Il Asn Leu Ala Val Pro Cys Il Tyr Ser Met Phe Arg L u
 100 105 110

WO 01/23417

PCT/EP00/09500

Val Glu Arg Tyr Glu Met Pro Arg His Glu Val Tyr Val Leu Leu Ile
 115 120 125
 Arg Asn Ile Phe Leu Lys Ile Ser Ile Ile Gly Ile Leu Cys Tyr Tyr
 130 135 140
 5 Trp Leu Asn Thr Val Ala Leu Ser Gly Glu Glu Cys Trp Glu Thr Leu
 145 150 155 160
 Ile Gly Gln Asp Ile Tyr Arg Leu Leu Leu Met Asp Ph Val Phe Ser
 165 170 175
 10 Leu Val Asn Ser Phe Leu Gly Glu Phe Leu Arg Arg Ile Ile Gly Met
 180 185 190
 Gln Leu Ile Thr Ser Leu Gly Leu Gln Glu Phe Asp Ile Ala Arg Asn
 195 200 205
 Val Leu Glu Leu Ile Tyr Ala Gln Thr Leu Val Trp Ile Gly Ile Phe
 210 215 220
 15 Phe Cys Pro Leu Leu Pro Phe Ile Gln Met Ile Met Leu Phe Ile Met
 225 230 235 240
 Phe Tyr Ser Lys Asn Ile Ser Leu Met Met Asn Phe Gln Pro Pro Ser
 245 250 255
 20 Lys Ala Trp Arg Ala Ser Gln Met Met Thr Phe Phe Ile Phe Leu Leu
 260 265 270
 Phe Phe Pro Ser Phe Thr Gly Val Leu Cys Thr Leu Ala Ile Thr Ile
 275 280 285
 Trp Arg Leu Lys Pro Ser Ala Asp Cys Gly Pro Phe Arg Gly Leu Pro
 290 295 300
 25 Leu Phe Ile His Ser Ile Tyr Ser Trp Ile Asp Thr Leu Ser Thr Arg
 305 310 315 320
 Pro Gly Tyr Leu Trp Val Val Trp Ile Tyr Arg Asn Leu Ile Gly Ser
 325 330 335
 30 Val His Phe Phe Phe Ile Leu Thr Leu Ile Val Leu Ile Ile Thr Tyr
 340 345 350
 Leu Tyr Trp Gln Ile Thr Glu Gly Arg Lys Ile Met Ile Arg Leu Leu
 355 360 365
 His Glu Gln Ile Ile Asn Glu Gly Lys Asp Lys Met Phe Leu Ile Glu
 370 375 380
 35 Lys Leu Ile Lys Leu Gln Asp Met Glu Lys Lys Ala Asn Pro Ser Ser
 385 390 395 400
 Leu Val Leu Glu Arg Glu Val Glu Gln Gln Gly Phe Leu His Leu
 405 410 415
 40 Gly Glu His Asp Gly Ser Leu Asp Leu Arg Ser Arg Arg Ser Val Gln
 420 425 430
 Glu Gly Asn Pro Arg Ala
 435

45 <210> 7
 <211> 1219
 <212> DNA
 <213> Artificial Sequence

<400> 7
 50 ctgatgatga atttccagcc tccgagcaaa gcctggcggg cctcacagat gatgactttc 60
 ttcattcttct tgcctctttt cccatctttc accggggtct tgtgcaccct ggccatcacc 120
 atctggagat tgaagccttc agctgactgt ggcccttttc gaggtctgcc tctcttcatt 180
 cactccatct acagctggat cgacacccta agtacacggc ctggctacct gtgggttggt 240
 tggatctatc ggaacctcat tgggaagtgt cacttctttt tcatcctcac cctcattgtg 300
 55 ctgatcatca cctatcttta ctggcagatc acagagggaa ggaagattat gataaggctg 360
 ctccatgagc agatcattaa tgagggcaaa gataaaatgt tcctgataga aaaattgatc 420
 aagctgcagg atatggagaa gaaagcaaac ccagctcac ttgttctgga aaggagagag 480
 gtggagcaac aaggcttttt gcatttgggg gaacatgatg gcagtcttga cttgcgatct 540
 agaagatcag ttcaagaagg taatccaagg gcctgatgac tcttttggtg accagacacc 600
 60 aatcaataaa ggggaggaga tgaaaatgga atgatttctt ccatgccacc tgtgccttta 660
 ggaactgccc agaagaaaat ccaaggcttt agccaggagc ggaaactgac taccatgtaa 720
 ttatcaagt aaaattggc attccatgct atttttaata cctggattgc tgatttttca 780
 agacaaaata cttgggggtt tccaataaag attgttgtaa tattgaaatg agcctacaaa 840
 aacctaggaa gagataacta gggaataatg tatattatct tcaagaaatg tgtgcaggaa 900
 65 tgattggttc ttgaaatct ctccctgccag acttcccaga cctggcaaat gtttagaac 960
 tgttgctaag aaaagtggc catcctgaat aaacatgtaa tactccagca gggatatgaa 1020

WO 01/23417

PCT/EP00/09500

```

gcctctgaat tgtagaacct gcatttattt gtgactttga actaaagaca tcccccatgt 1080
cccaaagggtg gaatacaacc agaggctctca tctctgaact ttcttgcgta ctgattacat 1140
gagtctttgg agtcggggat ggaggagggtt ctgccctgt gaggtgttat acatgaccat 1200
caaagtccta cgtcaagct 1219
5
    <210> 8
    <211> 191
    <212> PRT
    <213> Artificial Sequence
10
    <400> 8
    Leu Met Met Asn Phe Gln Pro Pro Ser Lys Ala Trp Arg Ala Ser Gln
    1 5 10 15
    Met Met Thr Phe Phe Ile Phe Leu Leu Phe Phe Pro Ser Phe Thr Gly
    20 25 30
15
    Val Leu Cys Thr Leu Ala Ile Thr Ile Trp Arg Leu Lys Pro Ser Ala
    35 40 45
    Asp Cys Gly Pro Phe Arg Gly Leu Pro Leu Phe Ile His Ser Ile Tyr
    50 55 60
20
    Ser Trp Ile Asp Thr Leu Ser Thr Arg Pro Gly Tyr Leu Trp Val Val
    65 70 75 80
    Trp Ile Tyr Arg Asn Leu Ile Gly Ser Val His Phe Phe Phe Ile Leu
    85 90 95
    Thr Leu Ile Val Leu Ile Ile Thr Tyr Leu Tyr Trp Gln Ile Thr Glu
    100 105 110
25
    Gly Arg Lys Ile Met Ile Arg Leu Leu His Glu Gln Ile Ile Asn Glu
    115 120 125
    Gly Lys Asp Lys Met Phe Leu Ile Glu Lys Leu Ile Lys Leu Gln Asp
    130 135 140
30
    Met Glu Lys Lys Ala Asn Pro Ser Ser Leu Val Leu Glu Arg Arg Glu
    145 150 155 160
    Val Glu Gln Gln Gly Phe Leu His Leu Gly Glu His Asp Gly Ser Leu
    165 170 175
    Asp Leu Arg Ser Arg Arg Ser Val Gln Glu Gly Asn Pro Arg Ala
    180 185 190
35
    <210> 9
    <211> 10
    <212> PRT
    <213> Artificial Sequence
40
    <400> 9
    Ile Thr Glu Gly Arg Lys Ile Met Ile Arg
    1 5 10
45
    <210> 10
    <211> 9
    <212> PRT
    <213> Artificial Sequence
50
    <400> 10
    Leu Leu Met Asp Phe Val Phe Ser Leu
    1 5
55
    <210> 11
    <211> 9
    <212> PRT
    <213> Artificial Sequence
60
    <400> 11
    Phe Leu Leu Phe Phe Pro Ser Phe Thr
    1 5
65
    <210> 12
    <211> 9
    <212> PRT

```

WO 01/23417

PCT/EP00/09500

<213> Artificial Sequence
 <400> 12
 5 Gln Met Met Thr Phe Phe Ile Phe Leu
 1 5
 <210> 13
 <211> 9
 <212> PRT
 10 <213> Artificial Sequence
 <400> 13
 Met Met Thr Phe Phe Ile Phe Leu Leu
 1 5
 15 <210> 14
 <211> 9
 <212> PRT
 <213> Artificial Sequence
 20 <400> 14
 Phe Leu Ile Glu Lys Leu Ile Lys Leu
 1 5
 25 <210> 15
 <211> 9
 <212> PRT
 <213> Artificial Sequence
 30 <400> 15
 Val Leu Leu Ile Arg Asn Ile Phe Leu
 1 5
 35 <210> 16
 <211> 9
 <212> PRT
 <213> Artificial Sequence
 <400> 16
 40 Leu Val Trp Ile Gly Ile Phe Phe Cys
 1 5
 <210> 17
 <211> 9
 45 <212> PRT
 <213> Artificial Sequence
 <400> 17
 50 Thr Leu Ala Ile Thr Ile Trp Arg Leu
 1 5
 <210> 18
 <211> 9
 <212> PRT
 55 <213> Artificial Sequence
 <400> 18
 Leu Ile Phe Cys Trp Asp Phe Thr Val
 1 5
 60 <210> 19
 <211> 9
 <212> PRT
 <213> Artificial Sequence
 65 <400> 19

WO 01/23417

PCT/EP00/09500

Phe Leu Gly Glu Phe Leu Arg Arg Ile
 1 5
 <210> 20
 <211> 9
 <212> PRT
 <213> Artificial Sequence
 <400> 20
 10 Leu Leu Leu Pro Phe Val Val Ser Cys
 1 5
 <210> 21
 <211> 9
 15 <212> PRT
 <213> Artificial Sequence
 <400> 21
 20 Leu Leu Thr Arg Phe Ser Ala Tyr Met
 1 5
 <210> 22
 <211> 9
 <212> PRT
 25 <213> Artificial Sequence
 <400> 22
 Lys Leu Ile Phe Cys Trp Asp Phe Thr
 1 5
 30 <210> 23
 <211> 10
 <212> PRT
 <213> Artificial Sequence
 35 <400> 23
 Leu Leu Leu Met Asp Phe Val Phe Ser Leu
 1 5 10
 40 <210> 24
 <211> 10
 <212> PRT
 <213> Artificial Sequence
 45 <400> 24
 Leu Leu Met Asp Phe Val Phe Ser Leu Val
 1 5 10
 50 <210> 25
 <211> 10
 <212> PRT
 <213> Artificial Sequence
 55 <400> 25
 Gln Met Met Thr Phe Phe Ile Phe Leu Leu
 1 5 10
 60 <210> 26
 <211> 10
 <212> PRT
 <213> Artificial Sequence
 65 <400> 26
 Tyr Leu Ala Glu Tyr Asn Leu Glu Phe Leu
 1 5 10

WO 01/23417

PCT/EP00/09500

<210> 27
 <211> 10
 <212> PRT
 <213> Artificial Sequence
 5
 <400> 27
 Lys Leu Ile Phe Cys Trp Asp Phe Thr Val
 1 5 10
 10
 <210> 28
 <211> 10
 <212> PRT
 <213> Artificial Sequence
 15
 <400> 28
 Leu Leu Phe Phe Pro Ser Phe Thr Gly Val
 1 5 10
 20
 <210> 29
 <211> 10
 <212> PRT
 <213> Artificial Sequence
 25
 <400> 29
 Gln Leu Leu Thr Arg Phe Ser Ala Tyr Met
 1 5 10
 30
 <210> 30
 <211> 10
 <212> PRT
 <213> Artificial Sequence
 35
 <400> 30
 Thr Leu Val Trp Ile Gly Ile Phe Phe Cys
 1 5 10
 40
 <210> 31
 <211> 10
 <212> PRT
 <213> Artificial Sequence
 45
 <400> 31
 Ser Gln Met Met Thr Phe Phe Ile Phe Leu
 1 5 10
 50
 <210> 32
 <211> 10
 <212> PRT
 <213> Artificial Sequence
 55
 <400> 32
 Val Leu Leu Leu Pro Phe Val Val Ser Cys
 1 5 10
 60
 <210> 33
 <211> 10
 <212> PRT
 <213> Artificial Sequence
 65
 <400> 33
 Ile Leu Cys Tyr Tyr Trp Leu Asn Thr Val
 1 5 10
 <210> 34
 <211> 10
 <212> PRT

WO 01/23417

PCT/EP00/09500

```

      <213> Artificial Sequence

      <400> 34
5      Thr Leu Ile Val Leu Ile Ile Thr Tyr Leu
      1              5              10

      <210> 35
      <211> 10
      <212> PRT
10     <213> Artificial Sequence

      <400> 35
      Tyr Val Leu Leu Ile Arg Asn Ile Phe Leu
      1              5              10
15

      <210> 36
      <211> 10
      <212> PRT
      <213> Artificial Sequence
20

      <400> 36
      Phe Val Phe Ser Leu Val Asn Ser Phe Leu
      1              5              10
25

      <210> 37
      <211> 10
      <212> PRT
      <213> Artificial Sequence
30

      <400> 37
      Leu Leu Leu Pro Phe Val Val Ser Cys Ile
      1              5              10
35

      <210> 38
      <211> 10
      <212> PRT
      <213> Artificial Sequence
40

      <400> 38
      Leu Ile Gly Ser Val His Phe Phe Phe Ile
      1              5              10
45

      <210> 39
      <211> 10
      <212> PRT
      <213> Artificial Sequence
50

      <400> 39
      Tyr Glu Met Pro Arg His Glu Val Tyr Val
      1              5              10
55

      <210> 40
      <211> 10
      <212> PRT
      <213> Artificial Sequence
60

      <400> 40
      Leu Leu Thr Arg Phe Ser Ala Tyr Met Val
      1              5              10
65

      <210> 41
      <211> 9
      <212> PRT
      <213> Artificial Sequence

      <400> 41

```

WO 01/23417

PCT/EP00/09500

```

Ile Tyr Ser Gly Gly Ile Thr Lys Leu
1           5

    <210> 42
5    <211> 9
    <212> PRT
    <213> Artificial Sequence

    <400> 42
10   Val Tyr Tyr Leu Ala Glu Tyr Asn Leu
    1           5

    <210> 43
    <211> 9
15   <212> PRT
    <213> Artificial Sequence

    <400> 43
20   Tyr Tyr Trp Leu Asn Thr Val Ala Leu
    1           5

    <210> 44
    <211> 9
    <212> PRT
25   <213> Artificial Sequence

    <400> 44
    Ile Tyr Arg Leu Leu Met Asp Phe
    1           5
30

    <210> 45
    <211> 10
    <212> PRT
    <213> Artificial Sequence
35

    <400> 45
    Val Tyr Val Leu Leu Ile Arg Asn Ile Phe
    1           5           10
40

    <210> 46
    <211> 10
    <212> PRT
    <213> Artificial Sequence

    <400> 46
45   Cys Tyr Tyr Trp Leu Asn Thr Val Ala Leu
    1           5           10

    <210> 47
50   <211> 10
    <212> PRT
    <213> Artificial Sequence

    <400> 47
55   Tyr Tyr Leu Ala Glu Tyr Asn Leu Glu Phe
    1           5           10

    <210> 48
    <211> 9
60   <212> PRT
    <213> Artificial Sequence

    <400> 48
65   Met Leu Phe Ile Met Phe Tyr Ser Lys
    1           5

```

12

<213> Artificial Sequence
 <400> 56
 Met Pro Arg His Glu Val Tyr Val L u Leu
 5 1 5 10
 <210> 57
 <211> 9
 <212> PRT
 10 <213> Artificial Sequence
 <400> 57
 Tyr Glu Met Pro Arg His Glu Val Tyr
 1 5
 15 <210> 58
 <211> 10
 <212> PRT
 <213> Artificial Sequence
 20 <400> 58
 Trp Glu Thr Leu Ile Gly Gln Asp Ile Tyr
 1 5 10
 25 <210> 59
 <211> 9
 <212> PRT
 <213> Artificial Sequence
 30 <400> 59
 Val His Phe Phe Phe Ile Leu Thr Leu
 1 5
 35 <210> 60
 <211> 9
 <212> PRT
 <213> Artificial Sequence
 40 <400> 60
 Leu Arg Arg Ile Ile Gly Met Gln Leu
 1 5
 45 <210> 61
 <211> 9
 <212> PRT
 <213> Artificial Sequence
 50 <400> 61
 Leu Leu Met Asp Phe Val Phe Ser Leu
 1 5
 55 <210> 62
 <211> 9
 <212> PRT
 <213> Artificial Sequence
 60 <400> 62
 Met Gln Leu Ile Thr Ser Leu Gly Leu
 1 5
 65 <210> 63
 <211> 9
 <212> PRT
 <213> Artificial Sequence
 <400> 63

WO 01/23417

PCT/EP00/09500

Phe Val Phe Ser Leu Val Asn Ser Phe
 1 5
 5 <210> 64
 <211> 9
 <212> PRT
 <213> Artificial Sequence
 <400> 64
 10 Phe Ile Leu Thr Leu Ile Val Leu Ile
 1 5
 15 <210> 65
 <211> 9
 <212> PRT
 <213> Artificial Sequence
 <400> 65
 20 Trp Gln Ile Thr Glu Gly Arg Lys Ile
 1 5
 25 <210> 66
 <211> 9
 <212> PRT
 <213> Artificial Sequence
 <400> 66
 30 Met Phe Tyr Ser Lys Asn Ile Ser Leu
 1 5
 35 <210> 67
 <211> 9
 <212> PRT
 <213> Artificial Sequence
 <400> 67
 Phe Ile Met Phe Tyr Ser Lys Asn Ile
 1 5
 40 <210> 68
 <211> 9
 <212> PRT
 <213> Artificial Sequence
 <400> 68
 45 Trp Arg Ala Ser Gln Met Met Thr Phe
 1 5
 50 <210> 69
 <211> 9
 <212> PRT
 <213> Artificial Sequence
 <400> 69
 55 Phe Phe Phe Ile Leu Thr Leu Ile Val
 1 5
 60 <210> 70
 <211> 9
 <212> PRT
 <213> Artificial Sequence
 <400> 70
 65 Phe Arg Leu Val Glu Arg Tyr Glu Met
 1 5

15